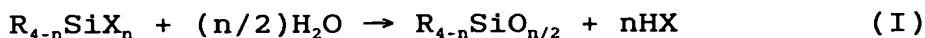
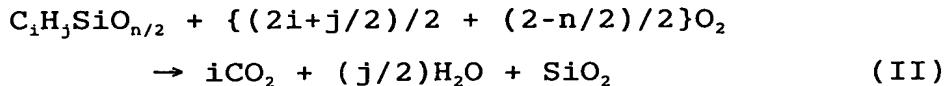


CLAIMS:

1. A method for preparing particulate silica, comprising
the step of feeding a gas mixture of at least one
5 organohalosilane gas of the formula: $R_{4-n}SiX_n$ wherein R is
hydrogen, methyl, ethyl or phenyl, X is a halogen atom, n is
an integer of 1 to 3, with the proviso that n = 3 when R is
phenyl, a flammable gas capable of generating water vapor
when burned, and a free oxygen-containing gas to a reaction
10 chamber through a burner, whereby the organohalosilane is
subjected to flame hydrolysis according to the scheme (I):



15 wherein R, X and n are as defined above, and then to
oxidation reaction according to the scheme (II):



20 wherein C_iH_j is a general form of R_{4-n} so that i varies in the
range of 0 to 6 and j varies in the range of 1 to 15 as R is
hydrogen, methyl, ethyl or phenyl, n is as defined above,
with the proviso that n = 3 when R is phenyl, thereby
25 forming particulate silica, wherein

the amount of said flammable gas fed is 1/2 to 9 mol
per mol of said organohalosilane and such that the amount of
water vapor resulting from combustion of said flammable gas
is 1 to 6 times the stoichiometric amount in scheme (I),

30 said burner has a plurality of concentric tubes
including a center tube, having an outlet open to the
reaction chamber, and

35 said gas mixture is fed to the center tube of said
burner such that it may have a linear velocity at the outlet
of the center tube of 50 to 120 m/sec, calculated in the
standard state.

2. The method of claim 1 wherein the amount calculated as oxygen of said free oxygen-containing gas fed is 1.0 to 2.0 times the sum of the oxygen equivalent necessary to synthesize SiO_2 from $\text{C}_4\text{H}_9\text{SiO}_{n/2}$ in scheme (II) and the oxygen equivalent necessary for theoretical combustion of said flammable gas.

3. The method of claim 1 wherein said organohalosilane is methyltrichlorosilane which is a by-product in the synthesis 10 of dimethyldichlorosilane from metallic silicon and methyl chloride.

4. The method of claim 1 wherein said flammable gas is hydrogen.

15 5. The method of claim 1 wherein said free oxygen-containing gas is air.

20 6. The method of claim 1 wherein said burner is a quadruple-tube burner having center, second, third and fourth tubes arranged concentrically from inside to outside, a mixture of the organohalosilane gas, the flammable gas and the free oxygen-containing gas is fed to the center tube,

25 the free oxygen-containing gas is fed to the second tube,

the flammable gas is fed to the third tube, and the free oxygen-containing gas is fed to the fourth tube.

30 7. The method of claim 1 wherein said burner is a triple-tube burner having center, second and third tubes arranged concentrically from inside to outside, a mixture of the organohalosilane gas, the flammable gas and the free oxygen-containing gas is fed to the center tube,

the free oxygen-containing gas is fed to the second tube, and

the flammable gas is fed to the third tube.

5 8. The method of claim 1 wherein said burner is a double-tube burner having a center tube and a second tube surrounding the center tube,

a mixture of the organohalosilane gas, the flammable gas and the free oxygen-containing gas is fed to the center

10 tube, and
the free oxygen-containing gas is fed to the second
tube.

9. The method of claim 6 wherein the gas linear velocity at the outlet of the second tube is 10 to 80% of the gas linear velocity at the outlet of the center tube.

10. Particulate silica produced by the method of claim 1
and having a specific surface area of 100 to 400 m^2/g and a
logarithmic standard deviation of primary particle diameter
of up to 0.5.